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The association of maternal diet and polyamines in human milk : A study among malay ethnic mothers in kuantan, malaysia (Article)

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Abstract

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Human milk contains a lot of nutrient and it offers advantages to infant age less than six months. Polyamines in milk accelerate the infants' gut maturation and protect babies from the harsh environment. Maternal diet is a factor which can affect the polyamines variability in milk. To date, no research on local diet and the composition of human milk has been investigated. This study aimed to identify an association between Malaysian maternal diet and composition of polyamines in human milk. Seventy nursing mothers were recruited in Pahang and each mother recorded their 24-hours food consumption within a week. Maternal diets were recorded in Nutritionist Prosoftware and the macronutrients were calculated. Milk samples were collected from each mother after 24 h of food diary. Polyamines in milk were extracted using 0.4 M Perchloric acid, dansylated and quantified using HPLC. The mean age of the respondent was 30.13 years [SD= 3.145]. Nursing mothers consumed high carbohydrate [41.4%] compared to fat [23.1%] and protein [13.7%]. Spermidine [49.1%] was the highest polyamines in the breast milk samples. A significant correlation were shown between putrescine and dietary carbohydrate [p=0.027] and putrescine and dietary protein [p=0.031]. The maternal education levels has no association with maternal diet pattern and breastfeeding practice in this study [p=0.657]. It is suggested that polyamines composition in human milk may be modulated by carbohydrate and protein intake among maternal mother. © 2018 Authors.

Author keywords

- Human milk
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- Maternal diet
- Polyamines

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